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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,205	06/01/2006	Isao Ochi	2006_0853A	2326

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WENDEROTH, LIND & PONACK, L.L.P.  
1030 15th Street, N.W.,  
Suite 400 East  
Washington, DC 20005-1503

EXAMINER
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KRAVETS, JULIYA

ART UNIT	PAPER NUMBER
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1781

NOTIFICATION DATE	DELIVERY MODE
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10/18/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
coa@wenderoth.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,205	<b>Applicant(s)</b> OCHI, ISAO	
	<b>Examiner</b> JULIYA KRAVETS	<b>Art Unit</b> 1781	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 27 July 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 1 and 3-8 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Status of the Application***

1. Receipt is acknowledged of the Response, Amendment and Applicant's Arguments/Remarks, all filed 07/27/2011.
2. Claims 1 and 3-8 are pending in this action. New claims 7-8 have been added. Claim 2 remains withdrawn. Claim 1 has been amended. Claims 1 and 3-8 are rejected.
3. Applicant has overcome the 35 U.S.C. 112, first paragraph, enablement rejection, regarding the term "sugar in the form of a liquid," by virtue of the amendment to the claims.
4. In light of applicant's amendments to claim 1, this action is made final.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claim 3 recites the limitation "the sugar in the form of liquid". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. **Claims 1 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (U.S. 5,591,491).**

9. **Regarding claim 1**, Ando et al. teaches a biodegradable molded article, that uses "a mixture in the form of a slurry obtained from mixing a soybean protein, sugar and water", where the mixture is subjected to electroconductive heating. (abstract)  
The biodegradable molded article can function similar to a plastic type mixture (column 1, lines 6-15). While the moldable plastic like mixture consists of soybean, sugar, and water, the biodegradable molded article can also include "wheat powder, etc., or materials including egg, dairy products, etc., and mixtures of the above" and starches such as wheat (column 6, lines 40-50).

10. Ando et al. teaches an exemplary mixture which contains 40% soybean protein, 20% sugar and 40% water by weight (tables 1 and 4). Together the sugar and water equal 60% by weight of the mixture.

11. Although Ando et al. teaches an exemplary mixture with 40% soybean protein, the examiner notes that changing the concentration of components in the mixture is well within the realm of one of ordinary skill in the art, and one would find it obvious to decrease the amount of soybean protein used. Ando et al. teaches that changing the ingredient concentrations alters the moldability, flexibility and structure of the product; thus one of ordinary skill in the art would find it obvious to change the concentration of

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ingredients in view of the properties of the final product desired, and in light of the teaching of Ando et al. For example, one of ordinary skill in the art would find it obvious that using more water and less soybean protein would create a product with more moisture content, and therefore alter the moldability, flexibility and structure of the product. A product with more water would (less soybean protein) be softer, while a product with less water (more soybean protein) would be harder. One of ordinary skill in the art would thus find it obvious to vary the concentration of components in order to affect the properties of the product.

12. In addition, Ando et al. does not teach the hardness measurement of the plastic mixture. However, as described above regarding the concentration of ingredients, this affects the moldability, flexibility and structure of the product. Ando et al. teaches that such properties can be altered by one of ordinary skill in the art through changing the ingredient concentrations. Further, the examiner notes that the hardness value as measured by a rheometer is a result effective variable that depends on the concentration of ingredients used in the mixture. As Ando et al. teaches a concentration of ingredients that is similar to that as claimed by applicant, one would expect to obtain similar hardness value of the product. Also, one of ordinary skill in the art would be able to alter the concentration of ingredients in order to obtain the desired hardness value.

13. Also, although Ando et al. does not teach a sugar solution, Ando et al. does teach sugar and water. Thus, the components of sugar, water, and soybean protein which are implied in the "sugar solution" and soybean protein composition, are taught

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by Ando et al. In addition, since the mixture contains sugar and water, this would create a sugar solution, since sugar dissolves in water and this becomes a solution.

14. **Regarding claim 4**, Ando et al. teaches a variety of dough mixture examples, where the mixtures can incorporate soybean protein and wheat dough as described above. Ando et al. teaches that the mixtures can incorporate other sources of protein (such as egg whites, table 5), and further provides examples of mixtures in which no protein is added. Thus, Ando shows that it is possible to vary the amount of protein source used in order to obtain desired properties of the dough composition. Ando appears to give sufficient direction for one to vary the amount of protein, and use other protein sources as well, depending on what is available, with a reasonable expectation of success.

15. Also, since Ando et al. teaches that the properties (i.e. moldability, flexibility, structure, strength) of the composition are variables that can be modified by adjusting the amounts and types of the components used, thus the quantity of each ingredient to include would have been considered a result effective variable by one having ordinary skill in the art, at the time the invention was made. Accordingly, one of ordinary skill in the art at the time the invention was made would have the skill and knowledge to have optimized, by routine experimentation, the quantity of each ingredient in the mixture, to obtain the desired flavor profile. (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 223).

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16. **Regarding claim 5**, Ando et al. discloses that the mixture is heated. (abstract)

17. **Regarding claim 6**, Ando et al. discloses that "Fats and oils, such as vegetable oils, animal fats, processed fats, and mixtures of the above" may be used. (column 7, lines 37-38)

18. **Regarding claim 7**, Ando does not teach that the resulting plastic mixture is added to wheat flour 30 minutes to 1 hour after mixing the soybean protein with the sugar solution.

19. However, Ando et al. does teach that when preparing the soybean protein, sugar and water mixture (mixture A), the materials are placed in a mixer where they are mixed and kneaded (column 4, lines 15-18). Ando et al. further teaches the importance of creating a uniform mixture (column 5, lines 64-67) which is clump free and homogenous (column 6, lines). Because Ando et al. teaches the homogeneous mixing of the soybean protein, sugar and water, the examiner takes the stance that one of ordinary skill in the art would find it obvious to mix the materials together for a time sufficient for homogenous mixing. As the applicant points out (specification, page 8, lines 14-20), the importance of allowing 30 minutes to 1 hour to pass is for the mixture to "firm up." The examiner takes the stance that this "firming up" occurs due to the homogeneous mixture of materials, which allows water absorption to occur from mixing the materials together. As Ando et al. teaches a uniform and homogenous mixture, one of ordinary skill in the art would expect that such a mixture is well mixed, and therefore a "firmness" of the mixture has occurred.

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20. Furthermore, one of ordinary skill in the art would find it obvious to mix the soybean protein sufficiently in order to obtain the desired firmness. One of ordinary skill in the art would be able to analyze the firmness of the product, and to mix the preliminary mixture sufficiently, in view of desired properties.

**Regarding claim 8**, Ando et al. teaches that the molded product can be used for edible ice cream wafers. The examiner takes the stance that such a product is a baked confectionary.

21. **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (U.S. 5,591,491) as evidenced by Alzamora et al. (Combined Preservation Technologies for Fruits and Vegetables).**

22. **Ando et al.** teaches the limitations of claim 1 as described above.

23. **Regarding claim 3**, Ando et al. teaches an exemplary mixture which uses 20% sugar and 40% water, as described above. Thus, sugar and water make 60% of the total mixture, and the sugar comprises 33.3% (w/w) of the sugar-water ( $20/60 = 33.3\%$ ).

24. Hereby used as evidentiary reference, Alzamora et al. teaches that a sugar solution such as a glucose solution of 33.3%(w/w) (i.e. 20g sugar in 60g solution as taught by Ando et al.) has a water activity value of approximately 0.95, and less with increasing solute content.



***Response to Arguments***

25. Applicant's arguments filed 07/27/2011 have been fully considered but they are not persuasive.

26. **Claim Rejections - 35 USC § 103(a) over Ando et al. (U.S. 5,591,491) in view of Nagao et al. (JP 2001-157545).**

27. Applicant argued,

*"The presently claimed method relates to foods. On the other hand, Ando relates to molded articles. The technical field of Ando is thus very different from that of the present method."*

28. Applicant's arguments have been fully considered but were not found to be persuasive. Ando et al. teaches molded articles which are made of edible food ingredients. (abstract and whole document); thus the molded articles can be considered foods. For example, Ando et al. teaches using the moldable article for edible ice cream wafers (column 10, lines 8-9).

29.

30. Also, applicant argued:

*"In addition, in the present method, "plasticity" means such a physical property that a mixture has appropriate consistency and smooth texture, and can*

*be uniformly mixed with raw materials which are generally used in wheat dough raw materials (page 9, lines 7-15 of the specification).*

*Ando describes molded articles. Molded articles have neither appropriate consistency nor smooth texture. And, molded articles cannot be uniformly mixed with wheat dough raw material.*

*In addition, Ando uses the word "plastic" as "synthetic organic solids" as will be appreciated from the description of column 1, lines 9-17. Thus, Ando neither teach nor suggest "plastic mixture" of the present method."*

31. Applicant's arguments have been fully considered but were not found to be persuasive. Regarding the description of column 1, lines 9-17, Ando et al. describes plastics in general, not the molded articles of the invention. Instead, Ando et al. teaches a biodegradable molded materials, which can function similarly as, and as an alternative to, plastics. Ando et al. also teaches that the molded article is made of soybean protein, sugar and water, and can be mixed with wheat dough raw materials as described above. Thus, the examiner takes the stance that the molded article has appropriate consistency and smooth texture, and can be uniformly mixed with wheat dough raw material.

32. Also, applicant argued:

*"To clarify this point, the hardness of the plastic mixture is defined in claim 1. Both Ando and Nagao neither teach nor suggest 0.1 cm<sup>2</sup> to 49 cm<sup>2</sup>/0.785cm<sup>2</sup> of the hardness of the plastic mixture. Therefore, even if Ando and Nagao were combined, a skilled person in the art could not arrive at the present method. In*

*addition, it is important that plasticity of dough be stable at a stage of confectionery production (page 1, lines 23-24 of the specification). However, dough using soybean protein undergoes influence of strong water absorption properties of soybean protein, and hardness of the dough is increased with time, thereby deteriorating workability. Since it is difficult to reduce this change in plasticity of the dough, the amount of soybean protein to be used should be restricted, and there has been a demand to avoid this (page 2, lines 12-19 of the specification)..."*

33. Applicant's arguments have been fully considered but were not found to be persuasive. Although Ando et al. does not teach a hardness value of the plastic mixture, Ando et al. does teach that properties such as moldability, flexibility and structure of the product are affected by the concentration of ingredients used. As described above, the examiner notes that the hardness value is a result effective variable that depends on the concentration of ingredients used in the mixture. One of ordinary skill in the art would be able to vary the concentration of the soybean protein, sugar, and water, in order to obtain the desired hardness value.

34. Further, As Ando et al. teaches a concentration of ingredients that is similar to that as claimed by applicant, one would expect to obtain a similar hardness value of the product. And, one of ordinary skill in the art would be able to vary the concentrations in order to affect the hardness value accordingly.

35. Applicant also argued:

*“Thus, it is an important point of the present invention to preliminarily prepare a plastic mixture of soybean protein with a sugar solution and then add the mixture to wheat flour. The rejection points out that Ando describes that the biodegradable molded article can also include wheat powder, etc. However, Ando does not disclose preliminarily preparing a plastic mixture of soybean protein with a sugar solution. In addition, Nagao only discloses preparing a mixture of powders. Therefore, both Ando and Nagao neither teach nor suggest preliminarily preparing a plastic mixture of soybean protein with a sugar solution. As above mentioned, the present claims are unobvious from Ando and Nagao.”*

36. Applicant's arguments have been fully considered but were not found to be persuasive. Ando et al. teaches that the general, basic molded article of the invention is made of soybean protein, sugar, and water. Thus one of ordinary skill in the art would find it obvious to follow the teachings of Ando et al. and to first create a soybean protein and sugar solution mixture. Further, Ando et al. teaches that other materials, including wheat, can be used to prepare the molded articles. (column 6, lines 34-56) Thus, one of ordinary skill in the art would find it obvious to try to incorporate the further listed ingredients into the general mixture of soybean protein, sugar and water. In such a case, the soybean protein, sugar, and water are preliminarily prepared, and wheat is added.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JULIYA KRAVETS whose telephone number is (571)270-5681. The examiner can normally be reached on M-F 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571)272--1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1781

/J. K./  
Examiner, Art Unit 1781